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## **Exercises for Neck Pain Management in Computer Professionals**

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### **ABSTRACT**

*Neck pain is very common among computer professionals who constantly sitting in front of a computer screen. Most often this is a result of fatigued muscles. Neck pain can really get irritating if it persists for long periods of time. The pain can get unbearable some times. Pain relievers are only way to find out relief from pain. Various factors such as posture, muscle strength levels, sleeping positions, and the way you respond to stress are among the things they'll likely to cause Neck problems. Since in memorial period various yogic exercises were used to control neck pain. In the present study 30 male in the age group of 45 ±5 years' computer professionals who are having neck pain were selected from Kavali town. Among them 15 men were kept as control group and no exercise trainings were given for them. For the rest of the 15 members 15 days' routine exercise trainings were given. They were called experimental group. After 15 days in both groups neck pain was assessed BY VAS rating The results shows that there was significant improvement in reduction of neck pain in experimental group over control group. Almost 56 % pain was reduced after 15 days.*

**KEY WORDS: NECK PAIN, COMPUTER PROFESSIONALS; EXERCISES**

### **INTRODUCTION**

Neck pain is one of the most common health problems in computer professionals. The prevalence of neck pain has generally been reported to be 25–30% among computer workers. 30% of neck pain patients develop chronic symptom. The economic expense associated with chronic mechanical neck pain is very high (Bernaards 2006). The source of mechanical neck pain is related to various pain-sensitive structures, including the zygapophyseal joints, ligaments, muscles, uncovertebral joints, intervertebral discs, or neural tissues around the cervical spine). Treatment of mechanical neck pain includes medication and physical therapy such as traction, massage, and other physical interventions, including spinal manipulation/mobilization (Stupar et al. 2008) The aim of treatment is to reduce pain and to increase range of motion of the cervical spine. Cervical manipulation has been commonly used to treat mechanical neck pain (Ylinen 2003). However, complications with this technique have been reported, particularly risk of vertebro-basilar artery insufficiency after cervical manipulation. For this reason, it has recently been suggested that thoracic spine manipulation and mobilization could reduce symptoms of mechanical neck pain in patients, but with fewer complication (Bernard 1997). Hence in this experiment an attempt is made to reduce neck pain by physical exercises.

## METHODOLOGY

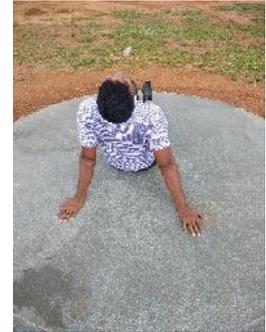
Thirty chronic mechanical neck pain subjects were recruited to participate in the current study. Subjects presented with unilateral or bilateral pain in the posterior neck and/or shoulder regions, and neck postures, neck movement, or palpation of the cervical region could provoke their symptoms. Inclusion criteria were: 1) aged 45 to 55 years; 2) a VAS pain rating of greater than or equal to 40 points; and 3) symptoms of more than 3 months in duration. Subject baseline ratings of neck pain were captured using a 100-point VAS (Hawker et al 2011). with values ranging from 0 to 100.

Subjects were excluded if they presented with any of the following: 1) diagnosis of cervical radiculopathy or myelopathy (determined by a physiatrist); 2) previous history of cervical and thoracic spine fracture and/or dislocation; 3) previous history of surgery of the cervical and/or thoracic spine; 4) previous history of spinal osteoporosis, spinal infection or fibromyalgia syndrome; 5) previous history of underlying hypertension, heart disease or meningitis; 6) any contraindication to manipulation; and 7) history of spinal manipulative therapy before this study.

They were divided into two groups. the first 15 patents were called control group. They did not received any exercises and training programme. The rest of the 15 patents were called experimental group. For them 15 days exercise regime was given as detailed below. They completed these exercises twice a day i.e. both in morning and evening. In each session the repeated these exercises for six times. VAS pain rating was recorded on first day, 5<sup>th</sup> day 10<sup>th</sup> day and 15<sup>th</sup> day after starting the exercise training.

### Behind the Back Neck Stretch

1. Stand with feet hip distance apart, arms by sides.
2. Reach both hands behind backside, and hold onto left wrist with right hand. Using right hand to gently straighten left arm and pull it away slightly.
3. To increase the stretch in neck, slowly lower right ear toward shoulder.
4. Stay here for 30 seconds and then switch sides.



### Seated Clasping Neck Stretch

1. Clasp hands and bring both palms to the back of head. Sitting with a tall spine, ground firmly into seat. Begin to gently press hands toward thighs, tucking chin into chest. As you press down, use hands to gently pull head away from shoulders. This will intensify the stretch even more.
2. Hold here for at least 30 seconds, and then slowly lift head up and release hands.



### Reverse Arch Stretch

1. Sit on the very edge of chair. Reach hands behind you and hold on to the back of the chair. Press chest forward, arching spine. If it feels comfortable, let head fall back slightly to open through the front of the neck.
2. Continue to breathe, feeling the front of body open up as you extend backward. Hold this position for 30 seconds or as long as you want. Then slowly lift head up, straighten spine, and release hold of the chair.



### Triceps Stretch

1. Reach left arm overhead, placing left hand on the front of right elbow.
2. Gently pull right elbow back until you feel a little tension
3. Release right elbow and lower right arm to side.
4. Bend left elbow and repeat the stretch with left arm.

## RESULTS

The data regarding the impact of different exercises on neck pain relief was presented in table. The results shows that there is significant reduction in the neck pain after 15 days of different exercises.

Table:

### IMPACT OF DIFFERENT EXERCISES ON NECK PAIN RELIEF

Values are mean of 15 observations. + or – indication percent increase or decrease over control. ± standard deviation, “P “denotes the level of significance

S.No.	Group	VAS PAIN RATING				
		before starting exercise	At the end of 1 <sup>st</sup> day	At the end of 5 <sup>st</sup> day	At the end of 10 <sup>th</sup> day	At the end of 15 <sup>th</sup> day
1	Control	78±8.3	77±7.5 -1.28% NS	79±7.77 +1.28% NS	77±6.8 -1.28% NS	78±7.1 Nil% NS
2	Experimental	76±7.3	82±9.4 +7.9 NS	68±6.44 -10.52 P<0.001	54±5.3 -28.94 P<0.001	33±3.8 -56.56 P<0.001

## Discussion

Neck pain is considered to one of the major health problem in modern societies.computer neck is caused by sitting with poor posture for prolonged periods in front of a computer. This can happen in a variety of ways, a couple of which should be pointed out. the neck is an area that is particularly susceptible to postural stress, in large part, because of the weight of our head. When our neck and head are in a neutral upright position, very little muscular effort is required to hold up our head. lean our head forward, then muscular effort soars in an exponential fashion. The muscles in the back of the neck must be constantly active when we lean our head forward, otherwise, our head would fall to our chest. This constant engagement of the posterior neck muscles leads to an overuse syndrome which results in muscular irritation and pain.So, a large part of what causes the neck pain of computer neck is chronic muscular overuse due to forward head position (FHP). Over time, FHP can also lead to a straightening of the cervical spine, wherein the normal forward curve of the neck is lost. Nearly every cervical x-ray career computer users demonstrates this maladaptation. The concern with the loss of cervical curve has to do with changing the distribution of load in the spine. In a straight cervical spine, structures become load-bearing that were not designed to do so. Improper load bearing can lead to difficulties with movement and degenerative changes. For these reasons and more, chronic FHP is to be avoided.

## CONCLUSION

Neck muscle strengthening exercises reduces the pain after 15days of treatment.

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